MARKED-UP VERSION OF THE AMENDED CLAIMS:

1. (currently amended) Structured mixing shaft (1) for thorough mixing and comminution of food products in an assembly (2) comprising ~~characterized in that the structured mixing shaft (1) having~~

a steel core (3);

~~exhibits~~ a coating (6) furnished to the steel core (3); [[with]]

mixing elements (4) associated with the coating (3), wherein the steel core (3), the coating (6), and the mixing elements (4) form a structured mixing shaft (1).

2. (original) Mixing shaft according to claim 1 wherein the coating (6) is a poly-tetra fluoro- ethylene (PTFE) and covers the complete mixing shaft (1).

3. (original) Mixing shaft according to claim 1 wherein the steel core (3) is made of stainless steel.

4. (original) Mixing shaft according to claim 1 wherein an elongated section (7) is furnished, and wherein a flange (8) is arranged at one end of the elongated section (7).

5. (previously presented) Mixing shaft according to claim 1, wherein mixing elements (4) are disposed at predetermined distances (A) on the elongated cylindrical section (7).

6. (currently amended) Mixing shaft according to claim 1 [[5]] wherein mixing elements (4) are disposed at irregular distances (A) on the elongated cylindrical section (7) ~~the distances (A) are furnished irregular~~.

7. (previously presented) Mixing shaft according to claim 1, wherein the cylindrical elongated section (7) is disposed in an elongated product chamber (9).

8. (original) Mixing shaft according to claim 6 wherein at least one injection nozzle (11) is disposed at the product chamber wall (10).

9. (previously presented) Mixing shaft according to claim 1, wherein the plastic coating (6) is pressed on isostatically at high pressures, then is sintered at high temperatures and in the following worked by metal cutting and machining away.

10. (previously presented) Mixing shaft according to claim 1, wherein the surface of the plastic coating (6) is polished.

11. (previously presented) Mixing shaft according to claim 1, wherein the complete surface of the steel core is roughened.

12. (previously presented) Mixing shaft according to claim 1, wherein the plastic coating (6) is sintered at temperatures from about 360 degrees centigrade to 380 degrees centigrade after the isostatic pressure application.

13. (previously presented) Mixing shaft according to claim 1, wherein the mixing elements (4) are a component of the coating (6).

14. (previously presented) Mixing shaft according to claim 1, wherein the cylindrical section (7) of the steel core (3) of the mixing shaft exhibits elongated grooves (12) and elongated projections (13), wherein the corners (14) and the edges (15) of the elongated grooves (12) and of the elongated projections (13) are formed rounded.

15. (preciously presented) Mixing shaft according to claim 1, wherein the `` widths of the grooves and of the projections (13) are of approximately equal size.

16. (currently amended) Method for the production of a coating (6) on the a structured surface of a steel core (3) of a mixing shaft (1) for thorough mixing and comminution of food products in an aggregate (2) ~~with the aid of a processing method known in principle for the application of poly- tetra fluoro- ethylene onto surfaces characterized in that~~

comprising

applying a coating (6) with [[the]] mixing elements (4) ~~is applied~~ onto the structured surface of the steel core (3) at isostatic pressure (p) and at increased temperatures (T) with the aid of a processing method for the application of poly-tetra fluoro ethylene onto surfaces.

17. (currently amended) Method according to claim 16 [[1]], wherein the plastic coating (6) is pressed on isostatically at high pressures, then sintered at high temperatures, and then in the following worked by machining away and metal cutting.

18. (currently amended) Method according to claim 16 [[1]], wherein the plastic coating is pressed on with an isostatic pressure of about 300 bar to 350 bar onto the steel core (3) of the mixing shaft (1).

19. (currently amended) Method according to claim 16 [[1]], wherein the plastic coating (6) is pressed on isostatically at high pressures, then is sintered at high temperatures and in the following worked by metal cutting and machining away.

20. (currently amended) Method according to claim 16 [[1]], wherein the plastic coating (6) is sintered at about 360 degrees centigrade to 380 degrees centigrade after the isostatic pressure application.